



DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN: 0648-XV188

Request for Information on Industry Needs for Space Situational Awareness Data and Value-Added Services, and Related Liability Considerations

AGENCY: Office of Space Commerce, Department of Commerce, National Oceanic and Atmospheric Administration.

ACTION: Notice; request for information (RFI).

SUMMARY: The U.S. Department of Commerce (Department), via the Office of Space Commerce (OSC), requests input from all interested parties on spacecraft operator needs for U.S. government space situational awareness (SSA) data and basic spaceflight safety services; private sector concerns regarding usage rights for SSA data and products; and a framework for legal liability associated with the provision and use of SSA data and basic spaceflight safety services. This input will inform OSC's development of capabilities to share SSA data and provide basic spaceflight safety services to all space operators.

DATES: Responses are due on or before *[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]*.

ADDRESSES: Interested individuals and organizations should submit written comments on issues addressed in this Notice by either of the following methods:

- Email: space.commerce@noaa.gov. Include the title of this request in the subject line of the message.

Instructions: Response to this RFI is voluntary. Attachments will be accepted in plain text, Microsoft Word, or Adobe PDF formats only. Respondents need not reply to all questions listed. Each individual or institution is requested to submit only one response. All comments received are part of the public record and may be posted, without

change, on a Federal website. All identifying information (*e.g.*, name, address) submitted voluntarily by the sender will be publicly accessible. OSC, therefore, requests that no business proprietary information, copyrighted information, or personally identifiable information be submitted in response to this RFI. Please note that the United States Government will not pay for response preparation, or for the use of any information contained in the response.

FOR FURTHER INFORMATION CONTACT: Glenn E. Tallia, Chief, NOAA Office of General Counsel, Weather, Satellites, and Research Section, (301) 938-6474.

SUPPLEMENTARY INFORMATION:

I. Background

As described in Space Policy Directive-3 (83 FR 28969; June 21, 2018) and the 2021 United States Space Priorities Framework (https://www.whitehouse.gov/wp-content/uploads/2021/12/United-States-Space-Priorities-Framework_-_December-1-2021.pdf), OSC is developing the capability to share space situational awareness (SSA) data and provide basic spaceflight safety services to all space operators, including conjunction analysis and warning services. OSC may leverage data, products, and services provided from a variety of government, commercial, academic, and international sources, taking over and potentially expanding upon the service currently provided by the Department of Defense.

OSC seeks public input broadly from the space community, including spacecraft operators, SSA data providers (current and prospective, ground and space-based), SSA analytic and value-added service providers, academia, nonprofit entities, space insurance providers, and the legal community.

OSC greatly appreciated responses to prior requests for information, including its request for information about “Commercial Capabilities in Space Situational Awareness Data and Space Traffic Management Services” in April 2019 and “Space Object

Commercial Data” in February 2022. In addition, OSC has conducted numerous Industry Day meetings with companies from November 2020 to January 2021 and provided an opportunity to respond to desired learning objectives from a Commercial Sprint Advanced Concept Training. In addition, OSC is currently engaged in a listening tour with satellite operators and commercial space situational awareness data providers to understand basic services they expect to see when OSC takes over the service currently provided by the Department of Defense. The responses help OSC better understand key aspects of current and future non-governmental space object commercial data, and advanced SSA services that exceed the basic spaceflight safety services described above. This request builds on that input and, in addition, requests comments on usage rights and liability concerns associated with OSC’s provision of SSA data and basic spaceflight safety services.

II. Questions To Inform Development of the SSA Products and Services

OSC seeks responses to four categories of questions, and invites any member of the public to provide input:

- A. Data, products, and services needed by spacecraft operators;
- B. Usage rights in data, products, and services needed and provided by spacecraft operators and value-added providers;
- C. Framework for legal liability of spacecraft operators and the private sector; and
- D. General feedback.

Respondents are encouraged to explain how the capabilities to be provided by OSC’s SSA data and basic spaceflight safety services can be structured for a policy and regulatory environment that enables a competitive and burgeoning U.S. commercial space sector. Responses may also explain how the U.S. Government can work with industry and international partners in the development and implementation of open,

transparent, and credible international standards, policies, and practices that establish the foundation for global space traffic coordination.

A. Data, products, and services needed by spacecraft operators

Prior requests for information have informed OSC on the specific capabilities commercial entities could currently provide and could provide in the future through an open architecture data repository that provides SSA data and basic spaceflight safety services. OSC is seeking to supplement this information by learning which SSA data and basic spaceflight safety services should be provided by OSC as a government service to spacecraft operators based on the most current needs of spacecraft operators.

Currently OSC is planning to develop a public catalog of tracked space objects and provide basic spaceflight safety services at no cost to satellite owners and operators, commercial service providers, and the public, including international participants. There are multiple basic services currently under consideration. First, OSC would provide on-orbit orbital safety assessments that include ephemeris and tracking-based conjunction assessment screenings, conjunction data message production with a calculated likelihood of collision probability, orbital determination quality assessment, timing of any future expected tracking, and pre-maneuver ephemeris screening. Second, OSC would provide end-of-life reentry assessments that estimate both the actual decay time and the ellipse of possible earth impact as satellites approach decay. Third, OSC would provide pre-launch coordination and launch coordination such as launch collision avoidance assessments, and disposal and reentry of launch detritus assessments. Finally, OSC would provide evaluations of satellite owner and operator data before such data's use in conjunction assessments.

OSC invites public comment on the scope of those SSA data and basic spaceflight safety services and on whether additional services from OSC would be of value to spacecraft operators.

B. Usage rights in acquired data, products, and services

OSC sought public input on its plans to procure SSA data on February 16, 2022 (<https://sam.gov/opp/7611eabcd5a74979a267199ea8689de2/view>), and will be seeking detailed public input later this year on the potential procurement of SSA products and services. This input will help OSC understand what data and products the private sector can provide. OSC may also obtain SSA data from spacecraft operators. OSC now seeks public input regarding the usage rights for the acquired data and products. OSC is inviting comments addressing what usage and sharing rights for acquired SSA data, products, and services will enable spacecraft operators and value-added service providers to best rely on OSC's data and basic spaceflight safety services. OSC also invites comments regarding how usage rights will impact those providing commercial SSA data or products to OSC. Furthermore, OSC invites comment on the following questions:

- (1) For value-added service providers, what type of usage rights in SSA data and products would enable use of such data and products to build advanced SSA services beyond basic spaceflight safety services? For example, would a condition prohibiting commercial use be problematic? Name specific acceptable data licenses if known (*e.g.*, Creative Commons Zero Universal Public Domain Dedication (CC0) (<https://creativecommons.org/publicdomain/zero/1.0/legalcode>), Creative Commons Attribution International (CC BY 4.0) (<https://creativecommons.org/licenses/by/4.0/legalcode>), Creative Commons Attribution-NonCommercial International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/legalcode>)). For spacecraft operators, what type of usage rights in SSA data and products, if any, are of value to rely on OSC's SSA data and basic spaceflight safety services?

- (2) For value-added service providers, would access to the algorithms used to process SSA data and create products and services be helpful? If so, why, and what type of usage rights would enable use? Name specific acceptable software licenses, if known (e.g., CC0, Apache 2.0 (<https://www.apache.org/licenses/LICENSE-2.0>), MIT, GNU Lesser General Public License (LGPL) (<https://www.gnu.org/licenses/lgpl-3.0.en.html>), GNU General Public License (GPL) (<https://www.gnu.org/licenses/gpl-3.0.en.html>), etc.).
- (3) For commercial data and product providers from whom OSC acquires SSA data and products, how would various usage rights in those data and products impact those commercial data and product providers? For example, are SSA data providers willing to provide data under an open license, but only at a significantly higher cost?
- (4) For spacecraft operators from whom OSC acquires data, how would various usage rights in those data impact spacecraft operators? For example, are spacecraft operators willing to share some data only on the condition that it is not shared with the public, or only shared with the public on the condition that it is used for noncommercial purposes?
- (5) Are non-Federal entities developing SSA products and services willing to share their algorithms with OSC, either freely or under a procurement contract? Would they be willing to share their algorithms with the public, either freely or if OSC procures public sharing and use rights? If so, under what usage rights (name specific acceptable software licenses, if applicable)?

C. Framework for legal liability of spacecraft operators and the private sector

OSC is evaluating the legal liability implications associated with the provision of governmental SSA data and basic spaceflight safety services. In this context, OSC is seeking information to consider whether the provision of governmental SSA data and

basic spaceflight safety services that incorporate industry data or products raises liability concerns for those providing the relied on data or products. OSC is also seeking public input on whether there are liability concerns with respect to spacecraft operators or value-added providers that rely on governmental SSA data and basic spaceflight safety services.

By “liability framework,” OSC means the set of legal rules that govern—or could govern—liability for a collision. In some of the questions below, OSC asks what the current liability framework is. OSC wants to ensure that it has accurate, comprehensive information about the current state of the world faced by parties involved in providing or using SSA or spaceflight safety services. In other questions, OSC asks what the liability framework could or should be in the future to address any potential liability issue.

Responders are encouraged to think about liability broadly and consider mechanisms such as disclaimers of warranty, indemnity, immunity, cross-waivers of liability, and others. OSC invites general responses regarding legal liability. Furthermore, OSC has identified the following questions:

(1) In the event of an on-orbit collision between two U.S. spacecraft operators, what liability framework currently applies and what role, if any, would governmental SSA data or basic spaceflight safety services play in that framework? What liability framework should apply? What incentives or regulatory approaches to liability will increase competitiveness of U.S. industry in the global market and increase spaceflight safety?

(2) In the event of an on-orbit collision between a U.S. spacecraft operator and a foreign spacecraft operator, what liability framework currently applies and what role, if any, would governmental SSA data or basic spaceflight safety services play in that framework? What liability framework should apply? What incentives or regulatory approaches to liability will increase competitiveness of U.S. industry in the global market and increase spaceflight safety?

- (3) In the event of an on-orbit collision, what insurance regimes are available to U.S. spacecraft operators? What liability mechanisms (*e.g.*, cross-waiver of liability provisions) can provide stability and risk assurance to both insurers and U.S. spacecraft operators? What role can or should governmental SSA data or basic spaceflight safety services play in insurance regimes?
- (4) Are there any liability concerns that would prevent spacecraft operators or commercial SSA data, product, or service providers from providing data, products, or services to OSC? Are there liability concerns caused by OSC creating derived or value-added data, products, or services developed using the provider's data, products, or services? If so, what could be done to address these concerns? With respect to SSA data, products and services released to the public, would the disclaimers included in standard open data licenses (such as CC0 or CC BY 4.0) adequately address those liability concerns?
- (5) Are there any liability concerns that would prevent spacecraft operators or commercial SSA data, product, or service providers from providing SSA data, products, or services to the public? What incentives or regulatory approaches to liability will be in the best interest of U.S. spacecraft operators and value-added providers in terms of international competitiveness and increased spaceflight safety?
- (6) Currently, OSC does not have specific space traffic control authority over space objects. What, if any, future space traffic control regimes would be desirable? Should provision of OSC SSA data or basic spaceflight safety services be accompanied with binding directions or procedures to spacecraft operators? What impact, if any, would such directions or procedures have on liability for U.S. spacecraft operators or value-added service providers?

D. General Feedback

OSC welcomes feedback about any other related topics. For example, are there any matters not discussed above that OSC should or must consider before it provides SSA data and basic spaceflight safety services?

III. How to Submit Your Response

To facilitate review of your responses, please reference the subject of the RFI in your response. You may respond to some or all of the topic areas covered in the RFI, and you can suggest other factors or relevant questions. You may also include links to online material or interactive presentations. If including data sets, please make the data available in a downloadable, machine-readable format with accompanying metadata.

Please note that this is a request for information (RFI) only. In accordance with the implementing regulations of the Paperwork Reduction Act of 1995 (PRA), specifically 5 CFR 1320.3(h)(4), this general solicitation is exempt from the PRA. Facts or opinions submitted in response to general solicitations of comments from the public, published in the **Federal Register** or other publications, regardless of the form or format thereof, provided that no person is required to supply specific information pertaining to the commenter, other than that necessary for self-identification, as a condition of the agency's full consideration, are not generally considered information collections and therefore not subject to the PRA.

This RFI is issued solely for information and planning purposes; it does not constitute a request for proposals, applications, proposal abstracts, or quotations. This RFI does not commit the U.S. Government to contract for any supplies or services or make a grant award. Further, we are not seeking proposals through this RFI and will not accept unsolicited proposals. Choosing not to respond to this RFI does not preclude participation in any future procurement, if conducted.

Dated: July 1, 2022.

Glenn E. Tallia,

Chief,

Weather, Satellite and Research Section,

NOAA Office of General Counsel.

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